Sussex County Municipal Utilities Authority

VIA EMAIL (CWC@dep.nj.gov)

January 28, 2021

Re: Permitting of PFAS Compounds in NJPDES Discharge to Surface Water
Request for Testimony

This letter serves as the Sussex County Municipal Utilities Authority (SCMUA or Authority) testimony for consideration on the permitting of PFAS compounds in NJPDES discharge to surface water.

The Department is currently requiring sampling for specific dischargers. How should the Department expand and prioritize its efforts to establish monitoring requirements for other dischargers?

Although the Department is currently requiring sampling for specific discharges, it remains evident that there are currently no official USEPA or Department approved methods to quantify PFAS substances in non-drinking water matrices. USEPA Method 537.1 is a drinking water method that has not be developed or validated for analysis of ground water and effluents and are prone to interference from other natural or manmade constituents as outlined in the NJ Drinking Water Quality Institute Testing Subcommittee report (pg. 441). Given the proposed extremely low standards, providing reliable data of known quality in the absence of appropriate analytical techniques is questionable.

The EPA Drinking Water Laboratory Method 537 Q&A states that conditions were evaluated up to 300 mg/L hardness/alkalinity and up to 5 mg/L TOC and further states that conditions that exceed the aforementioned would be results in greater "possible measurement uncertainty" which are common in wastewater effluent.

Prior to establishing monitoring requirements in wastewater, which has vastly different water chemistry then potable water, it is recommended that the Department further research, evaluate and then prioritize establishing a standardized method of sampling in lieu of expanding monitoring requirements. It serves no rational purpose to rush to establish monitoring requirements if the resultant database is questionable, unreliable, and inconsistent from one facility to another (due to laboratory methodology discrepancies and/or data variations and measurement uncertainty).

Since publicly owned treatment works (POTWs) are designed only to treat sanitary waste, should there be a short period of time to focus on the identification and elimination of the source through a track-down method before compelling treatment at a POTW for wastewater facilities? If so, what period of time?

As stated, POTWs are not designed to treat PFAS compounds which would result in large capital expenses for any proposed treatment attempting to decrease concentrations in the final effluent. That being said,, a track down method may be viable (and cost effective) to reduce PFAS compounds at the source, and should be attempted for a minimum of 10-years prior to implementation of treatment requirements for POTWs. The reasoning behind 10-years is that once a user is identified to have elevated PFAS in effluent, that discharger must design a treatment system. Then, after that treatment is designed and operational, the Authority would have to continue to monitor to determine if further treatment at the plant is necessary. The 10-year period would also allow for the NJDEP to further evaluate PFAS impacts upon surface water to eventually establish rational and scientifically based effluent limitations for surface water discharges.

Upper Wallkill Valley Water
Pollution Control Facility
(973) 827-8880
Fax: (973) 827-6867

Administrative Office
(973) 579-6998
Fax: (973) 579-7819

Solid Waste Facility
(973) 579-6998
Fax: (973) 579-7819

Additionally, typically, the track down method is intended to identify large industrial users. What is more likely in rural environments is that the PFAS compounds are accumulating in domestic wastewater. As you are aware, PFAS compounds originate from a variety of household items such as cookware, food packaging, and stain repellants (to name a few). Ultimately, once large industrial users are identified, the smaller domestic users will continue to deliver PFOS contaminated waters to wastewater facilities. The same 10-year duration should apply such that the Authority can identify the diversity of its waste streams where PFOS compounds are elevated and determine course of action.

What specific technologies are potentially available to treat wastewater from large sanitary dischargers for PFAS removal? For these technologies, what is the effectiveness and cost, as well as what secondary impacts, such as residuals management and air emissions, resulting from their use?

It should be noted that wastewater facilities have much more complex water column; even after disinfection, it has significant bacteria and microscopic life that will clog carbon filters physically as well as compounds that will take up active sites on the carbon. If treatment is determined necessary, cost of a Granular Activated Carbon (GAC) treatment system can vary greatly. When retrofitting a water treatment facility, some plants utilize sand filtration. At such plants, sand can be removed and replaced with GAC. This results in a relatively cost-effective way of treating potable water for PFAS compounds. However, most wastewater treatment plants do not have an existing sand filtration process that can be retrofitted with GAC. It would be likely that a new building would be necessary to house a GAC system. Unfortunately, most wastewater treatment plants would not have a hydraulic profile that would allow for gravity flow into a GAC system, so pumps would be needed to introduce the wastewater into the GAC system. Finally, space is also at a premium at many wastewater treatment plants, so having room for an additional building at the end of the treatment process is certainly not a given. That all being said, an extremely large capital expense would result and ultimately paid by the rate payers.

In addition to the capital upfront cost of implementation of GAC treatment, there is a maintenance (i.e. regeneration), monetary, and environmental cost associated with maintaining said treatment. With the regeneration process comes the use of fossil fuels and a waste stream of spent GAC saturated with PFOA and PFOS. If these wastes are landfilled, they will end up in leachate or released through gas wells into the atmosphere and eventually back into the groundwater sources via rain saturation. The increased electrical demand associated with treatment will increased greenhouse gas emissions as well as lack of disposal options for spent GAC would result in secondary impacts from re-release after disposal which have yet to be addressed by the Department.

Thank you for the opportunity to provide commentary.

Sincerely,

Thomas Varro, Executive Director

Joseph Sesto, Chief Engineer

cc: Thomas Prol, Esq.
Timothy Phillips, Wastewater Superintendent

Tk/letters/PFAS testimony 1-29-21

Upper Wallkill Valley Water
Pollution Control Facility
(973) 827-8880
Fax: (973) 827-6867

Administrative Office
(973) 579-6998
Fax: (973) 579-7819

Solid Waste Facility
(973) 579-6998
Fax: (973) 579-7819